IN THE CLAIMS

1-34. (Withdrawn)

35. (Currently Amended) A data acquisition node comprising:

a first circuit board supporting communications over a network;

a second circuit board coupled to at least one of:

i) an input device, and

ii) an output device;

a connector interface coupling multiple conductors of the first circuit board to the second circuit board; ~~and~~

the first circuit board including a corresponding first programmable interface coupled to the multiple conductors, the second circuit board including a corresponding second programmable interface coupled to the multiple conductors, configuration settings of the first programmable interface and the second programmable interface enabling conveyance of signals between the first circuit board and second circuit board;

wherein the first circuit board includes a first communication port supporting upstream communications and a second communication port to support downstream communications; and

wherein the upstream communications include communications to a central controller and the downstream communications include communications to other data acquisition nodes in a data acquisition and control system.

36. (Original) A data acquisition node as in claim 35, wherein the input device is a sensor device that monitors characteristics of a specific region in proximity to the data acquisition node.

37. (Original) A data acquisition node as in claim 36, wherein the second circuit board forwards data acquired from the sensor device to the first circuit board for transmission over the network.

38. (Original) A data acquisition node as in claim 37, wherein the second circuit board includes an isolation circuit between the sensor device and the corresponding second programmable interface.

39. (Original) A data acquisition node as in claim 35, wherein the output device is activated based on commands received over the network.

40. (Canceled)

41. (Canceled)

42. (Original) A data acquisition node as in claim 35, wherein at least a portion of the multiple conductors supports synchronization between the first circuit board and the second circuit board.

43. (Original) A data acquisition node as in claim 42, wherein the first circuit board receives communications over the network indicating how to program the first programmable interface and the second programmable interface.

44. (Original) A data acquisition node as in claim 35, wherein the first circuit board and corresponding first programmable interface, based on communications over the network from a remotely located controller, drives a signal to the second circuit board via at least one of the multiple conductors to synchronize the controller with functionality of the second circuit board.

45. (Original) A data acquisition node as in claim 35, wherein the second circuit board and corresponding second programmable interface, based on events detected by the input device, drives a signal to the first circuit board via at least

one of the multiple conductors to synchronize functionality of the second circuit board with a remotely located controller over the network.

46. (New) A data acquisition node as in claim 35, wherein the data acquisition node is part of a daisy chain of multiple data acquisition nodes; and

wherein the first communication port of the data acquisition node connects to an upstream data acquisition node in the daisy-chain and the second communication port connects to a downstream data acquisition node in the daisy-chain.

47. (New) A data acquisition node as in claim 46, wherein each of the upstream data acquisition node and the downstream data acquisition node support collection of data; and

wherein the data acquisition node is configured to receive data collected from the downstream data acquisition node via the second communication port for conveyance through the first communication port through the upstream data acquisition node to the central controller.

48. (New) A data acquisition node as in claim 47, wherein the downstream data acquisition node is coupled to at least one corresponding input device and at least one corresponding output device;

wherein the data acquisition node is configured to enable conveyance of message data derived from the at least one corresponding input device at the downstream data acquisition node through first communication port and the second communication port up the daisy-chain to the central controller;

the data acquisition node is configured to enable conveyance of control messages from the central controller down the daisy-chain through the first communication port and the second communication port to the at least one corresponding output device at the downstream data acquisition node.

49. (New) A data acquisition node as in claim 46, wherein the data acquisition node, the upstream data acquisition node, and the downstream data acquisition node each have assigned a corresponding different time slot on the daisy-chain to communicate data on the daisy-chain upstream to the central controller.

50. (New) A data acquisition node as in claim 49, wherein the central controller is configured to selectively vary an amount of bandwidth allocated on the daisy-chain for use by the data acquisition node to communicate data upstream to the central controller.

51. (New) A data acquisition node as in claim 49, wherein the central controller is configured to broadcast a network message downstream on the daisy-chain to each data acquisition node on the daisy-chain to indicate when each data acquisition node on the daisy-chain is permitted to transmit data upstream to the central controller as well as indicate a permitted response size for each data acquisition node.